Revanth Krishna Senthilkumaran

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West Lafayette, IN
Permanent Resident of the USA

Education

- **Purdue University** — West Lafayette, IN
  ***Senior (4th Year)**, Bachelor of Science in Computer Engineering; GPA: 3.59* — *Aug 2021 – Dec 2024*
  - **Relevant Coursework**: Robotics, Reinforcement Learning, Microprocessor Systems & Interfacing, Data Structures, Comp. Architecture & Prototyping, OOP in C++, Probablistic Methods, Python for Data Science

Experience

- **AeroVironment** — Moorpark, CA
  Software Engineering Intern — *Jun 2024 - Aug 2024*
  - **Internship**: Used quadcopter to implement autonomous software stack implemented on actively deployed fixed-wing UAV. Wrote a ROS2 PX4 bridge to send surveillance and mapping missions with BehaviorTree XMLs.
- **IDEAS Laboratory** — West Lafayette, IN
  Undergraduate Research Assistant — *Sep 2023 - **Present***
  - **ARTEMIS**: Used a Unitree Go1 quadrupedal robot to demonstrate that robots can assist first-responders with AI-based triage labeling trained using a medical center ED dataset. Paper submitted to IEEE-IROS 2024.
- **Bechtel Innovation Design Center** — West Lafayette, IN
  Printing and Prototyping Peer Mentor — *Feb 2023 - **Present***
  - **Makerspace**: Working with over 800 students every semester for projects with Metal and Non-metal Laser Cutting, 3D Printing: SLA, SLS, Carbon-fiber reinforced Onyx and resin, along with many personal projects.
- **Robotics, Perception and Manipulation Laboratory** — Minneapolis, MN
  Undergraduate Research Assistant — *Summer 2023*
  - **Spot**: Developed new method of robust data collection using Boston Dynamics robot quadruped Spot for learning from demonstration on manipulation tasks with language commands for a vision-language model (Per-Act). Project involved Python, ROS, Simulation, Camera Transformations, Voxels, Boston Dynamics API.
- **SMART Laboratory** — West Lafayette, IN
  Undergraduate Research Assistant — *Feb 2022 - Aug 2023*
  - **IEEE-IROS 2023**: Established novel method of using UAVs to inspect surfaces autonomously with learning from expert demonstration ***PUBLISHED*** to IEEE-IROS 2023: **UPPLIED**. Used WeBots simulation environment, ROS, VICON camera system to perform real world experiments.
  - **IEEE-TAC 2023**: **MOCAS** Dataset - mobile robot SMARTmBOT used to create a multimodal dataset with user studies for simultaneous cognitive workload assessment ***PUBLISHED*** to IEEE-TAC 2023 journal.
- **Air Force Research Laboratory** — West Lafayette, IN
  Undergraduate Researcher — *Fall 2022 - Spring 2023*
  - **NXP HoverGames3 Team Lead**: Led a team of students to compete in the NXP HoverGames3 UAV sustainability contest. Coordinated with the Horticulture department and proposed a method of using a drone with an RGB-depth camera to investigate and inspect lettuce plants grown on vertical farming, including shades of green, water content and gas sensing.
  - **IEEE Autonomous UAV Challenge 2023**: Worked with rover-tracking team to use a UAV to compete in a challenge, where a UAV tracks and follows a ground rover through obstacles.
- **The Autonomous Robotics Club of Purdue** — West Lafayette, IN
  President and Former Project Manager of Piano Hand — *Sep 2021 - Present*
  - **President**: Representing largest robotics club of Purdue: duties incl. councils for funding pitches, networking, club collaborations, workshops and seminars. Leading America's largest student-run robotics expo, RISE.
  - **Piano Hand**: Led a team to build an autonomous human-like hand that can read sheet music and play the piano.

Skills

Languages: Python, C++, C, Assembly, Verilog, SQL **Technologies**: Git, ROS, Linux, Docker, MATLAB